

DEVICE AND METHOD FOR CONTROLLING
SOLID-STATE MEMORY SYSTEM

ABSTRACT OF THE DISCLOSURE

A memory system includes an array of solid-state memory devices are in communication with and under the control of a controller module via a device bus with very few lines. This forms an integrated-circuit mass storage system which is contemplated to replace a mass storage system such as a disk drive memory in a computer system. Command, address and data information are serialized into component strings and multiplexed before being transferred between the controller module and the array of memory devices. The serialized information are accompanied by a control signal to help sort out the multiplexed components. Each memory device in the array is assigned an array address by an array mount. An memory device is selected by an appropriate address broadcast over the device bus, without requiring the usual dedicated select signal. A reserved array mount configuration is used to unconditionally select the device mounted. A reserved address broadcast over the device bus deselects all previously selected memory devices. Read performance is enhanced by a read streaming technique in which while a current chunk of data is being serialized and shifted out of the memory subsystem to the controller module, the controller module is also setting up the address for the next chunk of data to begin to address the memory system.